

NOTES ON AUSTRALIAN TAXA OF *ACACIA*

No. 5

MARY D. TINDALE

(Accepted 3.1978)

ABSTRACT

Tindale, Mary D. (National Herbarium of New South Wales, Royal Botanic Gardens, Sydney, N.S.W., Australia 2000) 1978. Notes on Australian Taxa of Acacia No. 5: Telopea 1 (5): 371–386, Pl. XIII.—Five new species of Acacia (Family Mimosaceae) from Eastern Australia are described, viz. A. chinchilleusis Tindale, A. gnymeri Tindale, A. debilis Tindale, A. ingranii Tindale and A. pickardii Tindale. Two new records for New South Wales are cited, namely A. phasmoides J. H. Willis and A. blakei Pedley. A note is provided on the affinities of A. gracillima Tindale (Western Australia).

INTRODUCTION

Three species, namely *A. chinchilleusis*, *A. gnymeri* and *A. debilis*, are described by special agreement, so that they may appear prior to the publication of Mr L. S. Pedley's key to the *Acacia* species of Queensland. Several taxa are discussed in this paper, so that they may be listed in the forthcoming census of the Angiosperms of New South Wales. In addition *A. pickardii* is described here, so that it may appear in the forthcoming new edition of Black's Flora of South Australia.

PUNGENTES

Uninerves

Acacia phasmoides J. H. Willis

Acacia phasmoides J. H. Willis in Muellera 1 (3): 121 (1967).

HOLOTYPE: Pine Mountain, ± 6 miles [± 10 km] SE. of Walwa, NE. Victoria, among granite rocks about $\frac{1}{2}$ mile [0.8 km] SW. of highest peak and at ± 760 m alt., J. H. Willis and K. C. Rogers 17.xi.1964 (MEL).

SPECIMENS EXAMINED: NEW SOUTH WALES: South Western Slopes: Dora Dora State Forest, N. of Talmalmo [c. 35° 52' S, 147° 29' E], uncommon, solitary bush next to fire trail, M. Butz NSW 108123, 9.1977 (NSW).

VICTORIA: High eastern declivities of Pine Mountain, spindly shrub 10 ft [3 m] tall, amongst granite rocks in shade near head of long tributary to Pine Mountain Creek, J. H. Willis NSW 107764, 12.1974 (wood voucher for phytochemical survey).

The collection from Dora Dora State Forest is the first recorded from New South Wales. This species was previously thought to be endemic to Pine Mountain, NE. Victoria.

A. phasmoides is somewhat difficult to place in Bentham's and Maiden and Betehe's classifications, since the inflorescences are very short, sessile, almost orbicular to oblate-globular spikes. As indicated by J. H. Willis in Muellera 1 (3): 123 (1967) it "most closely approaches *Acacia diffusa* Lindl.", i.e. the species now known as *A. genistifolia* Link, which has capitate inflorescences borne on

long peduncles. Both species have 4-merous flowers and \pm quadrangular mucronate phyllodes but in *A. plasmioides* the phyllodes are longer (c. 5–8 cm long), arcuately incurved and with both the margins and midveins apparently asperulate (from minute resinous tubercles).

PUNGENTES OR CALAMIFORMES?

Acacia pickardii Tindale, sp. nov.

Frutex 3–4.5 m altus, capite rotundato, trunco singulo (an semper?), cortice trunci griseo sulcato. Ramuli interdum spina terminati, interdum manifeste costati, pallide brunnei vel pallide virides, glauci, glabri, strato albo-ceraceo obducti. Phyllodia tertia, anguste linearia, pallide viridia, coriacea, rigentia, crecta, crassa, coriacea, plus minusve falcata, 2.2–5.0 cm longa, 1.0–1.5 mm lata, minute pilosa, supra pulvinum glandula orbiculari vel late elliptica, c. 0.6–1.7 mm longa et 0.7–0.8 mm lata vel 0.5–0.7 mm diametro instructi, apice acuto vel acuminato, mucrone pungentissimo, atro-brunneo, 1.2–1.7 mm longo, glandula orbiculari c. 0.2–0.5 mm diametro ad basin mucronis sita; venae complures, inconspicuae, longitudinales; pulvinus inconspicuus, flavido-brunneus, c. 0.2 mm long. Stipulae numerosae, geminatae, modice persistentes sed demum deciduae, crassae, breviter et sparse pilosae, spinae brunneae, 2.0–7.0 mm longae. Capitula aurea, in racemos non disposita, probabiliter solitaria vel geminata, c. 35–38-flora; pedunculi breviter pilosi, c. 1.5–2.4 cm longi. Bracteolae 1.2–1.7 cm longae, sursum dilatatae, dense ciliolatae, petiolo longo, ciliolato vel glabro, alis lateralibus translucidis. Calyx quinquelobatus, brevissimus, 0.3–0.4 mm longus, lobis truncatis, partem tertiam vel dimidiam longitudinis tubi aequantibus, glaber. Corolla quinquelobata, c. 2.5–2.9 mm longa, calyce 6–8-plo longior, usque ad quartam partem vel duas partes longitudinis tubi divisus; petalorum lamina plus minusve orbicularis, ungue suo multo brevior, sparse pilosa, margine pilis glanduliferis instructa, apice rotundata, ungue glabro et alis lateralibus translucidis. Stamina numerosa, 4.0–5.6 mm longa. Antherae biloculares. Ovarium stipitatum, album, flavidum vel pallide flavo-brunneum, plus minusve oblongum, c. 0.7–1.1 mm longum, c. 0.4–0.5 mm latum, glabrum. Stylus flavus vel pallide flavo-brunneus, glaber, 3–4 mm longus, stigmate conspicuo. Legumina ignota.

Trees 3–4.5 m high with a rounded crown, the trunk single (always?), with the bark grey and furrowed. *Branchlets* sometimes ending in a spine, ribbed sometimes prominently, light brown or light green, glaucous, glabrous, covered with a white waxy coating. *Phyllodes* terete, narrowly linear, light green, waxy, rigid, erect, thick, coriaceous, more or less falcate, 2.2–5 cm long, 1.0–1.5 mm broad, minutely pilose, with an orbicular or broadly elliptical gland c. 0.6–1.7 mm long and 0.7–0.8 mm broad or 0.5–0.7 mm diam. just above the pulvinus; apex acute or acuminate with a very pungent, dark brown mucro 1.2–1.7 mm long, with a small orbicular gland c. 0.2–0.5 mm diam.; veins several, inconspicuous, longitudinal; pulvinus inconspicuous, yellowish brown and about 0.2 mm long. *Stipules* numerous, paired, reasonably persistent but later deciduous, thick, shortly and sparsely pilose, brown, 2.0–7.0 mm long. *Capitula* golden, not borne in racemes, probably single or paired, with about 35–38 flowers; peduncles shortly pilose, c. 1.5–2.4 cm long. *Bracteoles* 1.2–1.7 cm long, dilated above, densely ciliate, the petiole long, ciliate or glabrous, with translucent lateral wings. *Calyx* 5-merous, very short, 0.3–0.4 mm long, with

truncate lobes, dissected from $\frac{1}{3}$ – $\frac{1}{2}$ of the length of the tube, glabrous. *Corolla* 5-merous, c. 2.5–2.9 mm long, 6 to 8 times as long as the calyx, dissected to $\frac{1}{4}$ – $\frac{2}{3}$ of the length of the glabrous tube; petals with the lamina more or less orbicular, much shorter than the claw, sparsely pilose, with glandular hairs on the margin, with the apex rounded, the costa indistinct, the claw glabrous and the lateral wings translucent. *Stamens* numerous, 4.0–5.6 mm long. *Anthems* bilocular. *Ovary* stipitate, white, yellow or pale yellowish brown, more or less oblong, c. 0.7–1.1 mm long, c. 0.4–0.5 mm broad, glabrous. *Style* yellow or pale yellowish brown, glabrous, 3–4 mm long, with a conspicuous stigma. *Legume* unknown.

HOLOTYPE: 8 km N. of Mt Gason Bore, 320 km N. of Marree, on Birdsville Track, adjacent to Bench Mark, S.A. Dept. Lands no. 1422, 27° 16' S, 138° 45' E, South Australia, rare (although locally common) tree to 3 m, one trunk and rounded crown, in gibber-covered sandplain between low white sand-ridges, *J. Pickard* 1761, 24.xii.1971 (NSW 106914, wood voucher for phytochemical survey), (NSW). **ISOTYPES:** AD, K.

DISTRIBUTION: South Australia, far northeast along the Birdsville Track south to Mt Gason Bore, in gibber-covered sandplain between sandridges and on stony hills.

FLOWERING PERIOD: December, April–May.

FRUITING PERIOD: unknown.

SPECIMENS EXAMINED: SOUTH AUSTRALIA: Simpson Desert Expedition Camp 34 (c. 90 km SSW. of Birdsville), tree to 3 m high, on stony rise, *R. L. Crocker* 7.1939 (AD 97422172); 4.6 miles [c. 7.4 km] N. of Mt Gason Bore, Birdsville Track, 27° 17' S, 138° 45' E, bark grey, plant suckering a little at the base, in area of gibber with bands of short grass, with pale sandhills nearby, about six trees in a group, *B. G. Briggs* 4580, 5.1972 (NSW); Mt Gason Bore, 27° 19' S, 138° 45' E, on stony hills, *E. G. Hughes* NSW 108126, 4.1976 (NSW), flowers yellow spheres, tree 12–15 ft [3.6–4.5 m] high, in "Dead-finish" association on stony hills, *E. G. Hughes* 4.1976 (AD 97619178).

This species is named in honour of Mr John Pickard, Senior Ecologist, Royal Botanic Gardens, Sydney, since he was the first person to draw my attention to this taxon from a remote inland area of South Australia.

In the absence of fruit it is difficult to classify this new species but *A. pickardii* appears to be allied to *A. teretifolia* Benth. which is native to south-western Western Australia. In Fl. Austral. 2: 304–305 (1864) Bentham has placed the latter species in both the Pungentes Plurinerves and the Calamiformes Plurinerves. In *A. teretifolia* the plants are smaller, being shrubs about 0.3–0.6 m high with much more prominently ribbed stems. Both species have spinescent stipules, dehiscent, linear-terete, rather rigid, obscurely nerved phyllodes, globular capitula not borne in racemes in the axils of the phyllodes, very short calyces and 5-merous flowers. In *A. teretifolia* the petals are concave and thick at the top giving the buds a peculiar, turbinate, truncate shape.

UNINERVES

Racemosae

Acacia ingramii Tindale, sp. nov.

A. neriifoliae A. Cunn. ex Benth. affinis, a qua differt habitu plerumque effusissimo, phyllodiis angustioribus, 1.5–2.5 mm latis, costis pilis persistentibus,

brevibus, rigidis, pallide flavis vel albis indutis, glandulis 1–2 marginalibus laminarum saepe majoribus, calyceibus minoribus circa 0.5–0.8 mm longis, leguminibus glabris vel fere glabris.

Allied to *A. neriifolia* A. Cunn. ex Benth. but differing in the usually very spreading habit, the narrower phyllodes 1.5–2.5 mm broad, the midribs clothed with persistent, short, stiff, pale yellow or white hairs, the 1–2 marginal glands of the lamina often larger, the calyces smaller, about 0.5–0.8 mm long, the legumes glabrous or almost so.

A very spreading, bushy shrub 2–5 m high or more rarely an erect tree up to 7.5 m high; bark smooth, grey or dark grey, slightly corrugated towards the base in older plants. *Branchlets* very dark grey, angular towards the apices, insignificantly ridged longitudinally, \pm clothed on the surface and ridges with short, appressed, grey or silvery hairs. *Phyllodes* linear, thinly coriaceous, straight or slightly falcate, 6–14 cm long, 1.5–2.5 mm broad, the main vein median, prominent, clothed with persistent, short, stiff, pale yellow or white hairs which are also scattered on the lamina, the minor veins finely reticulate, the apex terminating in a brownish mucro which is often hooked, the margins \pm clothed with short, stiff, pale yellow or white hairs; glands 1–2, comparatively large, 1–2 mm long, puberulous, light red-brown to fawn, reniform-oblong, with an orbicular orifice, borne on the margins of the phyllodes, usually 1 close to the base and another in the upper $\frac{2}{3}$ of the phyllode; pulvinus comparatively small, c. 1.5–2.2 mm long, puberulous. *Inflorescences* with the capitula borne in a raceme which is shorter than the phyllodes, c. 14–22 flowers per capitulum (3–6 mm in diam.), the peduncles 2.0–2.5 mm long, c. 0.2 mm in diam. and clothed with short, appressed, pale yellow hairs. *Bracteoles* c. 0.6–0.8 mm long, dark red, the stalk glabrous or almost so, the expanded peltate apical portion with yellow cilia especially around the margin. *Calyx* 0.5–0.8 mm long, dissected to c. $\frac{1}{3}$ of its length, obconical, fawn to dark red in dried material, the apices of the broadly rounded lobes clothed with rather long, yellow and white, stiff hairs, the tube glabrous. *Corolla* 1.3–1.8 mm long, usually 5-merous, the petals free and clothed with rather long, appressed, yellow hairs towards their acute granulose apices, the midribs faint. *Stamens* numerous, the filaments free, yellow, c. 1.8–2.5 mm long. *Ovary* globose to obovate, yellowish brown to dark red brown, glabrous or sparsely to densely clothed with white hairs, 0.4–0.6 mm long, 0.2–0.3 mm wide, the style glabrous, c. 2.0–2.5 mm long. *Legumes* brown, later blackish, \pm glossy, thinly coriaceous, glabrous or with a few, scattered, appressed, weak, white hairs, submoniliform, convex over the seeds, 4–8.5 cm long, 6–9 mm broad, the margin greyish brown, c. 0.3 mm wide, not prominent. *Seeds* (immature) longitudinal in the legume, blackish brown.

HOLOTYPE: Wollomombi Falls, 36 km E. of Armidale, 30° 32' S, 152° 02' E, New South Wales, small tree to 4 m high with dark grey, smooth bark slightly corrugated towards base, yellow flowers and young phyllodes with appressed hairs; above falls with *Acacia diphylla*, *Callistemon paludosus*, *Clematis*, *Leucopogon* aff. *fraseri* etc., common, this taxon usually occurs in less accessible sites, *R. Coveny* 5667 & *N. Lander* 1.x.1974 (NSW). **ISOTYPES:** CANB, CBG, K, L, MEL, UC, US, Z.

DISTRIBUTION: NEW SOUTH WALES: Northern Tablelands: Mainly the Dangars and Wollomombi Falls, Gara and Oaky River districts of the Upper Macleay River catchment, growing in rugged gorge country, often on rocky cliff tops, usually in tall scrub but sometimes

extending to eucalypt woodland (mostly *Eucalyptus* sp. aff. *cypellocarpa* but also *E. melliodora*, *E. blakelyi* and *E. bridgesiano*), on soils derived from slates.

FLOWERING PERIOD: August-November.

FRUITING PERIOD: November-December.

SPECIMENS EXAMINED: NEW SOUTH WALES: Northern Tablelands: Oaky River, where Armidale-Kempsey road crosses the river [30° 31' S, 152° 15' E], in cleared eucalypt woodland on slaty soil, upstream from the dam site, *D. Pearson* NSW 107548, 9.1959 (NSW); Wollomombi Falls, c. 2.2 miles [3.5 km] S. of Wollomombi, 30° 32' S, 152° 02' E, small tree 2–2.5 m high with smooth, grey bark corrugated towards base, on slate hillside in association with *Jacksonia scoparia*, *Acacia* sp., *Dodonaea* sp., etc., common, *K. Thurtell & R. Coveny* 3923, 12.1971 (NSW 106919, woodblock voucher for phytochemical survey; A, AD, B, BRI, CANB, G, K, L, MEL, NA, PERTH, UC, US); Wollomombi Falls, 6 ft [1.8 m] high, on rocky cliff tops, *I. S. Olsen* NSW 107546, 11.1966 (NSW); Wollomombi Falls, *E. N. McKie* NSW 107542, 10.1932 (NSW); Wollomombi Falls, small tree to 3 m high with yellow flowers, smooth grey bark often corrugated towards base in older trees, young phyllodes with white appressed hairs, and sometimes branching low to form rounded shrubs, on steep hillsides from plateau to upper slopes of gorge, scattered to common with *Notelaea microcarpa* var. *velutina*, *Grevillea* sp. aff. *obtusiflora*, *Zieria furfuracea*, *Jacksonia scoparia* etc.: *Acacia filicifolia* and *A. irrorata* occurred on the plateau in adjacent areas above the gorge: this taxon extends above Wollomombi Creek to Edgars Lookout, a distance of c. 3 km, *R. Coveny* 5665 & *N. Lander* 10.1974 (A, AD, B, G, LE, Macquarie, NSW, NU, PERTH, TL); Wollomombi Falls, shrub 8 ft [2.4 m] high, *N. Perry* 250, 9.1977 (NSW); Wollomombi Gorge, E. of the lookout, shrubs to 5 m (mostly 3–4 m), common on stony spurs extending a little way out from edge of gorge, in scrub with *Notelaea microcarpa* var. *velutina*, *Maytenis* sp., *Jacksonia scoparia*, in skeletal soil over slate, *J. B. Williams* 11.1967 (NE); Oaky River Hydro-electric Scheme, 20 miles [32.2 km] E. of Armidale [30° 35' S, 152° 04' E], Oaky River Hydro-electric Scheme, on hills above the dam, a tree 8 ft [2.4 m] high, *D. Pearson* NSW 107540, 12.1958 (NSW); Blue Hole, Gara River [30° 36' S, 151° 48' E], *R. Southwell* NSW 107547, 12.1962 (NSW); Gara River [c. 30° 37' S, 151° 48' E], in rugged gorge country, *C. K. Ingram* NSW 107544, 10.1936 (NSW), *C. K. Ingram* NSW 107545, 10.1936 (NSW); Dangars Falls [30° 40' S, 151° 44' E], on podsol, *K. Plowman* 8.1962 (NE); Dangars Falls, c. 20 km ESE. of Armidale [30° 40' S, 151° 44' E], spreading bushy shrubs 2–5 m tall to occasionally small erect trees up to 7.5 m tall in sheltered places, plentiful both in tall scrub (with *Bursaria spinosa*, *Jacksonia scoparia*, *Casuarina lehuani*, *Notelaea microcarpa* var. *velutina* etc.) and low open woodland (with *Eucalyptus melliodora*, *E. blakelyi* and *E. bridgesiano*) on clay-loams and clays, often with small outcrops of slate and greywacke, *J. B. Williams* NSW 108139, 29.2.1978 (NSW); Dangars Falls, tall shrub on skeletal soil, *E. Rock* 8.1964 (NE), *J. W. Green* 1.1962 (NE).

This species is named in honour of Mr C. Keith Ingram of Mt Tomah, N.S.W. He drew my attention to this taxon several years ago.

A. ingramii is closely allied to *A. nerifolia*, the differences being set out in the diagnoses on p. 374. The latter species has an extensive range in Queensland (Burnett, Leichhardt, Darling Downs and Moreton Districts) and in New South Wales (North Coast, Northern Tablelands, North and Central Western Slopes as well as the North Western Plains). It is an erect shrub or tree often 5–9 m high occurring on skeletal soil on rocky hillsides and the tops of ridges amongst granite boulders or sometimes porphyry outcrops. *A. ingramii* is a very spreading, bushy shrub 2–5 m high (or more rarely a small erect tree up to 7.5 m high) which grows in shallow soil with numerous slate or sometimes greywacke outcrops on the margin of the gorges of the Upper Macleay River. I am indebted to Mr J. B. Williams, Botany Dept., University of New England, for this field data.

The mistletoe *Anyema quandang* (Lindl.) Tiegh. var. *quandang* is frequently parasitic on *A. ingramii*.

JULIFLORAE

*Rigidulae**Acacia gracillima* Tindale

In Telopea 1 (1): 74–76 I described *A. gracillima* as a new species from the Kimberleys, Western Australia. In my Latin diagnosis I stated the features which distinguish this taxon from *A. linarioides*, giving the impression that these two species were very closely allied. It would have been preferable to indicate that *A. linarioides* is the species most frequently confused with *A. gracillima* in herbarium collections. However both taxa are members of the Juliflorae Rigidulae according to Benthams' classification in Fl. Austral. 2: (1864).

A. gracillima is a member of the *Acacia lysiphloia* F. Muell. complex which is mainly found in the northern half of Australia. This group is characterized by minni-ritchie or "cat scratch" bark which is dark red or red-brown and curls off in narrow strips. In *A. lysiphloia* and its allies the phyllodes are dark green, comparatively narrow, several-veined and usually clothed with lax hairs. The spicate inflorescences are borne on long peduncles and the petals of the flowers have a prominent midrib (especially noticeable in the buds). The legumes are resinous, reticulately veined and the margins prominent.

JULIFLORAE

*Falcatae**Acacia blakei* Pedley

Acacia blakei Pedley in Contr. Queensland Herb. 15: 6 (1974).

* HOLOTYPE: Pedley 323 (BRI).

SPECIMENS CITED: NEW SOUTH WALES: border of North Coast-Northern Tablelands: 1.8 km NE. of Sandy Hill on the Bruxner Highway, 28° 54' S, 152° 15' E, 500 m alt., small rounded tree 8–10 m high with light yellow flowers and fibrous bark; in eucalypt forest by roadside, R. Coveny 5732 and N. Lander (NSW 108432, wood voucher for phytochemical survey, BRI); Sandy Hill, 18 miles [29.0 km] E. of Tenterfield, R. H. Cambage 2925, 9.1911 (NSW), in bud.

FLOWERING PERIOD: August to October.

These collections represent the first records of *A. blakei* from New South Wales. This species has quite a wide geographic range in Queensland where it occurs in the Mitchell, Leichhardt, Maranoa, Darling Downs, Burnett and Moreton Districts, but extends just over the border into northern New South Wales (L. Pedley, pers. comm.).

A. blakei has a superficial resemblance to *A. cheelii* Blakely which has been recorded from the Northern Tablelands, North and Central Western Slopes and North Western Plains of New South Wales but does not occur in Queensland. The latter species differs in its glaucous branchlets, markedly falcate phyllodes, broader inflorescences (mostly 6–8 mm in breadth) and calyces densely clothed with a golden indumentum.

A. burrowii Maiden is closely related to *A. blakei* but the latter differs in its larger phyllodes (5–7 cm long and 7–26 mm wide), its more elongated pulvini (3–5 mm long) and longer inflorescences (3–6 cm long). The former species occurs on the North Western Slopes and North Western Plains of New South Wales and in the Darling Downs, Maranoa and Leichhardt Districts of Queensland.

Another species with which *A. blakei* could be confused is *A. julifera* which has terete or slightly flattened legumes as well as densely pubescent foliage and branchlets on young plants. *A. julifera* is widely distributed in Queensland.

JULIFLORAE

Group of *Acacia whitei*

Acacia guymeri Tindale, sp. nov.

A. whitei Maiden arcte affinis sed differt: habitu altiore effuso, spicis diffusis, floribus pallidioribus flavidis, late dispositis, pedunculis inflorescentiarum maturarum plerumque elongatioribus (6–25 mm longis) et angustioribus (circiter 0.4 mm diametro), phyllodiis angustioribus (circiter 1.3–1.5 mm latis), 50–100-plo longiora quam lata, nervo medio nervoque marginali prominentibus, nervis 2 longitudinalibus minus conspicuis nervo medio parallelis, ovariis glabris.

Closely allied to *A. whitei* Maiden but differing in the taller, open habit, the diffuse spikes, the paler yellow, widely spaced flowers, the peduncles of the mature inflorescences usually more elongated (6–25 mm long) and narrower (c. 0.4 mm in diameter), the narrower phyllodes (c. 1.3–1.5 mm broad), 50–100 times as long as broad, the midrib and marginal vein prominent with 2 longitudinal less conspicuous nerves parallel to the midrib, the ovaries glabrous.

Single or multi-stemmed shrub 1.5–2.5 m high, bark smooth and silver grey. *Branchlets* slightly scurfy, tuberculate on the younger parts, reddish brown or sometimes yellowish red, later greyish brown, terete except towards the apices, glabrous, with a waxy surface, the ridges becoming more pronounced towards the apices, whitish lenticels prominent on the older branchlets. *Phyllodes* yellowish green with paler margins, narrowly linear, straight or curved, 7.5–15 cm long, c. 1.3–1.5 mm wide, the surface often scurfy and with dark red squamules towards the base, the midrib prominent with 1 vein \pm parallel on each side; apex apiculate and sometimes curved, bearing a small orbicular gland; base tapering very gradually into a pulvinus c. 1.5–2.0 mm long, bearing just above the latter a gland which is orbicular, dark red to black, raised slightly above the surface and c. 0.3 mm in diameter. *Inflorescences* yellow, spicate, borne singly in the axils of the phyllodes, 10–20-flowered, the peduncle (6–) 15–25 mm long in mature inflorescences, yellowish green. *Bracts* 2 at the base of the pedicel, 1.2–1.5 mm long, dark red or dark brown, glutinous or sometimes scurfy, concave, \pm broadly ovate to lanceolate. *Bracteole* c. 0.7–0.8 mm long, yellow or red, club-shaped with a broad base, bearing several red squamules on the surface and margin. *Calyx* c. 0.6–0.8 mm long, cupola-shaped, 5- or rarely 4-lobed, dissected $\frac{1}{5}$ – $\frac{1}{2}$ of its length into acute or shortly acuminate lobes each with a prominent midrib, about $\frac{1}{3}$ of the length of the corolla, creamy yellow, the

apices darker with orange or dark red squamules, glabrous except for the ciliolate margins. *Corolla* 1.5–2.0 mm long, dissected from $\frac{3}{4}$ or almost to the base into 5 (or rarely 4) narrowly elliptical lobes, pale yellow, whitened towards the base, the midrib very prominent, sometimes with long white hairs at the apex of the lobes but otherwise glabrous. *Stamens* yellow, the filaments numerous, 2.5–3.0 mm long, anthers bilocular. *Ovary* 0.7–0.9 mm long, 0.3–0.6 mm broad, \pm oblong, glabrous, greenish yellow and red, the style cream-coloured, 1.7–4.0 mm long. *Legumes* stipitate, straight-sided or scarcely constricted between the seeds, thick and almost woody, brown or dark brown with prominent, raised, fawn margins, 4.0–8.3 cm long, 0.4–0.5 cm broad, linear, slightly convex over the seeds, tapering gradually at the base, the apex curved and acuminate, the surface glabrous with numerous, dark reddish lenticels. *Seeds* longitudinal in the legume, 3.0–3.5 mm long, 2.0–2.5 mm broad, compressed, \pm oblong-elliptical or broadly oblong-elliptical, tan-coloured, later black, the surface ruminant, the pleurogram closed, the areole c. 1.5 mm long and c. 1 mm broad, \pm oblong or broadly oblong, the funicle cream-coloured, flattened, ribbon-like, expanded into a fleshy cupuliform aril on top of the seed.

HOLOTYPE: 36 km [22.4 miles] WNW. of Mt Carbine, Laura road, Queensland, single- or multi-stemmed shrub 1.5–2.5 m, bark smooth, silver grey, in disturbed community beside roadside on low rocky hill, soil skeletal, *G. P. Guymer* 898, 12.i.1977 (NSW). **ISOTYPES:** BRI, CANB, CBG, K, L, MEL, NE, PERTH, US.

DISTRIBUTION: 33–36 km WNW. of Mt Carbine in the vicinity of Spring Ck, Cook District, Queensland, with *Grevillea parallela*?, *Melaleuca*, in eucalypt woodland, on rocky ridge in skeletal soil.

FLOWERING PERIOD: January, mainly buds but some flowers in bloom.

FRUITING PERIOD: January, new legumes; September, old fallen legumes present.

SPECIMEN EXAMINED: QUEENSLAND: **Cook District:** 0.5 miles [0.8 km] S. of Spring Creek on low road cutting by roadside, 12.2 miles [19.6 km] by road from McLeod River travelling N., 33 km WNW. of Mt Carbine towards Cooktown, 16° 27' S, 144° 50' E, multi-stemmed shrub 2–2.5 m high with smooth grey bark and brown pods, scarce on rocky ridge with *Grevillea parallela*?, *Melaleuca*, in eucalypt woodland, *R. Coveny* 6969 & *P. Hind* 9.1975 (NSW 107864, woodblock voucher for phytochemical survey; BRI, CANB, K, MEL, NSW, US).

According to Maiden & Betcher's classification (1916) *A. guynieri* would be a member of the Juliflorae, being a phyllodinous species with cylindrical spicate inflorescences. In Proc. Roy. Soc. Queensland 30: 35 (1918) Maiden placed it ally, *A. whitei* Maiden, in the Juliflorae Tetramerae. However, except for the sometimes 4-merous flowers in both *A. guynieri* and *A. whitei*, I do not consider that they are closely related to other members of the Tetramerae. Maiden had already indicated (loc. cit. 37) that the flowers and fruits of *A. whitei* were very different from two Western Australian species in the Tetramerae, viz. *A. coehliocarpa* Meisn. and *A. neurophylla* W. V. Fitzg. The fruits of *A. guynieri* and *A. whitei* are flattened, thick and almost woody with a wide, raised, pale-coloured margin. They differ markedly from the fruits of the following members of the Tetramerae in which the legumes are \pm cylindrical, often striate or wrinkled, mostly brown and lacking a raised, pale-coloured margin: *A. alpina* F. Muell., *A. dallachiana* F. Muell., *A. floribunda* (Vent.) Willd., *A. longifolia* (Andr.) Willd., *A. longissima* H. Wendl., *A. mucronata* Willd. ex H. Wendl., *A. obtusifolia* A. Cunn., *A. orites* Pedley, *A. phlebophylla* H. B. Williamson and *A. riceana* Henslow.

A. guynmeri belongs to a small group of species native to northern Queensland, viz. *A. whitei* Maiden and a new species (which will be described shortly by Mr L. S. Pedley) collected by E. M. and B. R. Jackes near Argentine Mine, 60 km WNW. of Townsville on 8.x.1976 (BRI). The latter has a low prostrate habit, whereas *A. guynmeri* is an open, very diffuse, single- or multi-stemmed shrub and *A. whitei* is a low compact shrub. All three species have comparatively large flowers which are mostly 5-merous but sometimes 4- or 6-merous, with very prominent midribs on the petals especially in the buds. Other distinctive features shared by these taxa are: 1) the acute to shortly acuminate calyx-lobes bearing reddish or orange squamules towards the apices, 2) the prominent midribs of the sepals, 3) the club-shaped bracteoles bearing reddish squamules, 4) the plurinerved phyllodes each bearing one inconspicuous orbicular gland at the apex and base (just above the pulvinus) and 5) the rather flattened, thick, almost woody legumes with prominent, pale-coloured, raised margins. Both *A. whitei* and *A. guynmeri* have comparatively broad, flattened, ribbon-like funicles but I have not seen seeds of the third species.

The species from Argentine Mine has very narrowly linear, hexagonal phyllodes 5–10 cm long, and c. 0.5–1 mm wide, whereas in *A. whitei* and *A. guynmeri* the phyllodes are flattened and never hexagonal in cross section. In *A. guynmeri* they are very narrowly linear i.e. 50–100 times as long as broad, being 7.5–15 cm long and c. 1.5 mm wide, with a prominent midrib and one \pm parallel longitudinal vein on each side. In most collections of *A. whitei* the phyllodes are 4.5–9 cm long and c. 4–6 mm wide, being 11–15 times as long as broad with 7 well-defined parallel veins. However in *T. L. Bancroft* NSW 136983 collected at Stannary Hills in June 1909 the phyllodes are much narrower than usual in *A. whitei* being c. 2.0–2.2 mm broad and the number of longitudinal veins on each side of the prominent midrib varies from one to two. This specimen agrees with other material of *A. whitei* in its almost sessile spicate inflorescences, glabrous flowers and hoary ovaries. Maiden designated the type of the latter species as being collected at Stannary Hills, via Irvinebank, North Queensland, in 1910 by T. L. Bancroft (without citing a collector's number). There are two sheets in the National Herbarium of New South Wales obtained in that locality by Bancroft. I am choosing NSW 108134 as the lectotype, since the date of collection (i.e. 1910) has been cited on the label. The other sheet, which is labelled "Stannary Hills, a bush about 6 ft, *T. L. Bancroft* 230", is undated. The phyllodes in both specimens are consistently 7-veined but in the lectotype they range from 3.7–13.5 cm long and 2.5–4.5 mm broad, whereas in *Bancroft* 230 they are 7.5–15 cm long and 3.5–5.5 mm broad. A probable isotype labelled "Stannary Hills, *T. L. Bancroft* 171, 1910" is located in the Queensland Herbarium (BRI 11163) and consists of two slightly dissimilar specimens. The flowering material mounted on the left hand side has very narrowly linear phyllodes (c. 65 times as long as broad), i.e. up to 13 cm long and 2.0–2.5 mm wide, mostly with 7 parallel veins, although in some cases only the midrib and 4 ill-defined veins may be discerned. In the fruiting specimen on the right hand side there are always 7 clearly defined veins in the phyllodes which are broader (3.5–4.5 mm wide). In the Queensland Herbarium there is a second sheet (BRI 229134) but it bears two labels "Stannary Hills, grows abt. 2 ft high, *T. L. Bancroft* 171" and "more specimens of 171–230 *Acacia doratoxylon* is a bush about 6 ft high. No. 171 is only 2 feet or so and found in a different place". In BRI 229134 the phyllodes range from 8.5–15 cm long and 2.0–2.5 mm wide with mostly 7 (but sometimes 5) often poorly defined veins.

A. guyeri has only been recorded from the type locality, viz. Cook District, 36 km WNW. of Mt Carbine on the road to Laura, whereas *A. whitei* has a more southerly range in the Cook District at Stannary Hills and Davies Creek near Mareeba, as well as at Herberton and Paluma towards Ewan in the North Kennedy District.

In *A. guyeri* the flavonoid pattern of the heartwood is melacacidin + leucofisetinidin in low concentration (D. G. Roux, pers. comm.) whereas in *A. whitei* it is teracacidin + 8-*O*-methyl ethers (Tindale and Roux p. 832 (1974)). Both results are typical for members of the Juliflorae.

This species is named after Mr Gordon Guyer, Dept. of Botany, University of New England. At my request he took photographs of and collected further material of this *Acacia* from the original site where Messrs R. Coveny and P. Hind discovered *A. guyeri*.

BOTRYOCEPHALEAE

Acacia chinchillensis Tindale, sp. nov.

Acacia polybotryae Benth. arete affinis, sed differt: floribus in capitulo paucioribus (11–22), pinnis brevioribus (0.8–2.0 cm longis), angustioribusque (0.5–1.0 cm latis), pinnulis brevioribus (2–7 mm longis), costis pinnularum obscuris non sulcatis sine venulis lateralibus basalibus, calyceibus corollis circiter triplo (nec duplo) brevioribus, lobis calyceum triangularibus quintam partem longitudinis tubi aequantibus.

Closely allied to *Acacia polybotrya* Benth. but differing in the fewer flowers (11–22) in a head, pinnae smaller (0.8–2.0 cm long) and narrower (0.5–1.0 cm broad), the pinnules smaller (2–7 mm long), the midribs of the pinnules obscure, non-sulcate, without basal lateral veins, the calyces shorter being $\frac{1}{3}$ of the length of the corollas instead of $\frac{1}{2}$, the lobes of the calyces triangular dissected to $\frac{1}{5}$ of the length of the tube.

Multi-stemmed, spreading, glaucous shrub 0.3–2 m high, the bark of the trunks smooth, grey-brown, greenish brown or yellow-brown, often slightly glaucous. *Branchlets* terete, sometimes glaucous, often with faint longitudinal ribs, pilose with soft white hairs especially on the young tips. *Leaves* with a dark grey, shortly pilose, basal pulvinus 0.5–1.5 mm long; petiole 2.5–6 (rarely up to 9) mm long, shortly pilose, terete, mostly bearing just below or between the lowest pair of pinnae a gland which is stalked, glabrous or pilose, brown or red-brown, glaucous, spherical, c. 0.1–0.3 mm in diam., with a brown- or yellow-rimmed orifice; rachis c. 0.7–2.3 cm long, slightly angular and flattened, rarely with a similar gland just below the apical pair of pinnae, shortly pilose, red-brown or greenish brown, sometimes glaucous; terminal seta deltoid, straight or slightly recurved, with an inconspicuous orbicular gland at its base. *Pinnae* (2–) 3–4 pairs, c. 0.8–1.4 cm long, rarely up to 2 cm long, c. 0.5–1.0 cm broad, often markedly glaucous. *Pinnules* 5–10 pairs, 2–7 mm long, 0.5–1.0 mm broad, glabrous or very sparsely pilose towards the apex, narrowly oblanceolate or oblanceolate, sometimes eultrate, the margins often slightly recurved, the apices acute, bluntly apiculate or broadly rounded, often slightly oblique, with a minute obtuse mucro, the midrib obscure, almost central, non-sulcate and without

basal minor veins. *Flower-heads* yellow or golden yellow, globose, 3–5 mm in diam., borne in racemes (up to 3x as long as the leaves) or towards the apices of branchlets in panicles, 11–22 flowers per capitulum; peduncles 2.5–5.0 mm long, glabrous, terete, red-brown or light brown, sometimes glaucous. *Bracts* at the base of each peduncle c. 0.5–0.8 mm long, deltoid, light to dark brown or red-brown, sometimes glaucous, glabrous on the surface and shortly ciliolate along the margin. *Bracteoles* c. 0.6–0.8 mm long, light golden brown, red-brown or dark brown, the pedicel ciliolate on the surface and margins, expanding into a spatulate or peltate apical portion which is ciliolate along the margin. *Calyx* 5-merous, c. 0.5–0.8 mm long, oboconical, scarcely dissected to almost $\frac{1}{5}$ of its length into rounded, subacute or acute lobes slightly darker or much darker than the corolla, light golden brown or red-brown, clothed with short white hairs along the margins and with a row of longer, stiff, usually crisped or deflexed, white hairs rarely along the midrib but sometimes between the lobes. *Corolla* 5-merous, yellow, brownish towards the centre, c. 1.0–1.7 mm long, dissected $\frac{1}{4}$ – $\frac{1}{3}$ of its length, glabrous or sometimes with a few hairs towards the keeled, often darker apices of the petals, the margins granulate. *Filaments* of the stamens numerous, bright yellow, c. 2–4 mm long. *Ovary* subsessile, c. 0.4–1.1 mm long, c. 0.2–0.5 mm broad, ovate or ovoid, pale golden brown or red-brown, glabrous or with a few, white or cream-coloured, long or short hairs. *Style* pale yellow, c. 2.5–4.0 mm long, glabrous. *Legumes* with a stalk c. 0.5–0.6 mm long, 5–10 cm long, 4–7 mm broad, dull brownish-black or grey, often \pm bluish glaucous, \pm constricted between the seeds, slightly convex over the seeds, often falcate, the surface and margin pilose or villous when young, later clothed with long, coarse, white, \pm appressed hairs up to 1 mm long, the margin not conspicuous, red-brown and c. 0.2 mm wide. *Immature Seeds* dull brown or black, oblong-elliptical, longitudinal in the legume.

HOLOTYPE: Chinchilla-Auburn road, 36.7 km [22.8 miles] N. of Chinchilla by road, Darling Downs District, c. 26° 30' S, 150° 38' E, Queensland, multi-stemmed shrub to 2 m high with green-brown, smooth bark (slightly glaucous), branchlets yellow-green (glaucous), leaves glaucous, common in sandy soil in *Callitris columellaris*-*Eucalyptus* (ironbark) forest with *Acacia conferta*, *A. semilunata*, etc., *R. Coveny* 6813 & *P. Hind* 29.viii.1975 (NSW 108120, woodblock voucher for phytochemical survey) (NSW). **ISOTYPES:** A, AD, B, BRI, CANB, CBG, G, K, L, LE, MEL, MO, NU, P, RSA, TL, UC, US, Z.

DISTRIBUTION: Darling Downs District, South Eastern Queensland, in ironbark eucalypt (*Eucalyptus uclanophloia* etc.)-*Callitris columellaris*-*Casuarina* woodland, in sandy or gravelly soils.

FLOWERING PERIOD: July-September, in heavy bloom.

FRUITING PERIOD: August and December.

SPECIMENS EXAMINED: QUEENSLAND: **Darling Downs District:** Auburn-Chinchilla road, 40.7 km [25.3 miles] N. of Chinchilla by road, multi-stemmed shrub 1 m high with yellowish-green branchlets (glaucous), smooth green-brown bark, common in sandy soil in *Callitris columellaris*-*Eucalyptus* (ironbark, bloodwood) forest with *Acacia conferta*, *A. doratoxylon* var. *angustifolia*, *Hakea purpurea*, *Westringia* etc., *R. Coveny* 6818 & *P. Hind* 8.1975 (NSW 108119, woodblock voucher for phytochemical survey; A, BRI, CANB, CBG, K, MEL, PERTH, UC, US); Chinchilla-Auburn road, 36.2 km [22.5 miles] N. of Chinchilla by road, 26° 30' S, 150° 38' E, multi-stemmed shrub 30–40 cm high with smooth yellow-brown bark, glaucous leaves; in sandy soil in *Callitris columellaris*-*Eucalyptus* (ironbark) forest with *Acacia conferta*, *A. semilunata*, *Hovea*, *Prostanthera*, etc., rare, *R. Coveny* 6809 & *P. Hind* 8.1975 (NSW); Chinchilla-Auburn road, 22 miles [35.4 km] N. of Chinchilla, growing in red-brown sandy soil with Cypress Pine, Bull Oak and Ironbark, shrub to 4 ft [1.2 m], leaves glaucous, *R. W. Johnson* 2677, 9.1963 (BRI);

30 km N. of Chinchilla, 26° 27' S, 150° 40' E, rounded shrub to c. 1.5 m, foliage grey-green, flower-heads bright yellow, on gravelly soil on roadside and in woodland of *Eucalyptus melanophloia*-*Callitris columellaris*, L. Pedley 4127, 8.1973, spreading shrub c. 1 m tall with glaucous foliage, on sandy soil on roadside, Pedley 4024, 12.1972 (BRI, NSW); Chinchilla, G. Ward NSW 107002, 7.1964 (NSW); on a minor road, c. 20 km NE. of Tara, a slender delicately branched shrub 0.6 m tall with 3-4 stems, mainly in poor eucalypt ironbark woodland with *Casuarina luehmannii* and *C. glauca*, N. Hall H 77/123, 9.1977 (FRI, NSW, PERTH); 10 miles [16 km] NE. of Tara, spreading shrub 1-4 ft [0.3-1.2 m], on sandy soil, R. Andrews 9.1966 (BRI 63787).

The specific epithet 'chinchillensis' is derived from the name of the township Chinchilla in which district this species is prevalent.

A. chinchillensis is closely allied to *A. polybotrya*, the differences being set out in the diagnoses on p. 380. The former species is restricted to Queensland where it has a more northerly distribution than *A. polybotrya* and occurs in drier country. The latter species ranges from the Darling Downs District of Queensland to the North Western Plains (especially the Pilliga Scrub) and the North and Central Western Slopes of New South Wales.

BOTRYOCEPHALEAE

Acacia debilis Tindale, sp. nov.

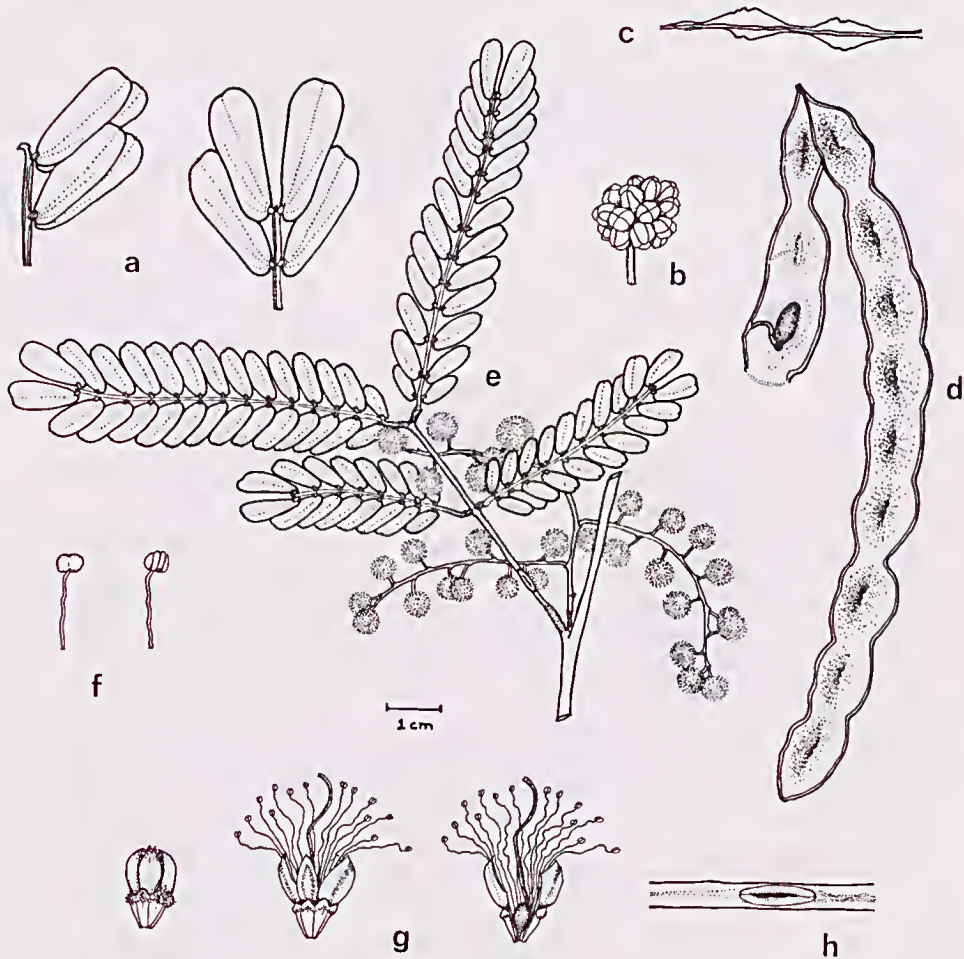
A. pruinosa A. Cunn. ex Benth. arete affinis sed differt: capitulis maturis minoribus (3.5-6 mm diametro), floribus in capitulo paucioribus (15-33), calycibus 0.6-1.0 mm longis, lobis calycum triangularibus (nunquam spathulatis) quintam vel tertiam partem longitudinis tubi acquantibus, glande petioli plerumque medium versus sita, lineari vel ovali paullo elevata, glande inter pinnas inferiores nulla vel, si non nisi pari unico pinnarum adsint, glande unica lineari vel ovali parum infra pinnas sita.

Closely allied to *Acacia pruinosa* A. Cunn. ex Benth. but mature capitula smaller (3.5-6 mm in diameter), with fewer (15-33) flowers per capitulum, the calyces 0.6-1.0 mm long, dissected to $\frac{1}{5}$ - $\frac{1}{3}$ of the length of the tube into triangular (never spathulate) lobes, the gland of the petiole usually occurring towards the middle, gland absent between the basal pair of pinnae, or if there is only a single pair of pinnae, a linear or oval gland slightly below it. Plate XIII.

Spindly shrub or small tree, 2.5-6 m high, the trunk slender with smooth, greyish green or reddish green bark. *Branchlets* brown or yellow grading to red-brown, glabrous, inconspicuously ribbed longitudinally or almost smooth. *Young tips* golden brown to reddish brown. *Leaves*: pulvinus glabrous, dark brown, 3-5 mm long; petiole 0.8-4.0 cm long, glabrous, terete, usually bearing about half-way between the pulvinus and basal pair of pinnae a gland which is conspicuous, glabrous, linear to oblong or oval, 2-7 mm long and with a yellow- or dark brown-lipped, obcuneate or slit-like orifice, a gland absent below the basal pair of pinnae except in some cases where only 1 pair of pinnae is present; rhachis 0.8-4.7 cm long, glabrous, usually bearing just below the uppermost pair of pinnae a gland which is round, obcuneate or oblong, glabrous, 1-2 mm long, with a slit-like or round orifice and yellow or dark brown lips; terminal seta recurved, c. 1.5 mm long, with a small orbicular gland at its base. *Pinnae* greyish green, slightly glaucous, glabrous,

Plate XIII

C. Payne del.

*Acacia debilis* Tindale

a. Pinnules. b. capitulum. c. legume in side view. d. legume with seed. e. pinnae and inflorescences. f. stamens. g. bud and flowers. h. gland on petiole.

(1-) 2-4 pairs, 3-7 cm long, 1.0-3.7 cm broad, sometimes with a round or oblong gland c. 0.5-1.0 mm long at the base of the petiolule above the secondary pulvinus; terminal seta c. 1 mm long, with an orbicular gland at its base. *Pinnules* 5-15 (-23) pairs, 6-15 mm long, 1.5-6.0 mm broad, with a prominent excentric vein and mostly 2 basiscopic shorter veins not reaching the margin, broadly rounded or slightly emarginate at the apex with a very short, terminal mucro. *Flower-heads* golden-yellow or yellow, globose, 3.5-6 mm diam., in racemes or more usually in panicles, 15-33 flowers per capitulum, the peduncles glabrous. *Bract* at the base of the peduncle c. 0.5-0.6 mm long, golden brown to dark brown, deltoid or broadly ovate, shortly ciliolate along the margin. *Bracteoles* 0.6-1.0 mm long, red-brown; expanded apical portion peltate or obpyriform, the margin with a dense white pubescence; pedicel brown with a white pubescence along the margin and on the longitudinal ridge. *Calyx* 5-merous, 0.6-1.0 mm long, brown or red-brown, dissected $\frac{1}{5}$ - $\frac{1}{3}$ of the length of the tube into acute triangular (never spatulate) lobes ciliolate along the margins, rarely sparsely ciliolate in vertical rows on the tube. *Corolla* 5-merous, the petals free, 1.5-1.8 mm long, glabrous, keeled at the apex, c. 3-3 $\frac{1}{2}$ times as long as the calyx. *Stamens* with numerous yellow filaments c. 3.0-3.5 mm long. *Ovary* \pm oblong, c. 0.8 mm long, glabrous, brown or golden brown, the style c. 3 mm long. *Legumes* 5.5-13.5 cm long, c. 0.9-1.1 cm broad, blue-black, glaucous, submoniliform, convex over the seeds, dull to glossy, glabrous, the surface inconspicuously net-veined, the margin rather prominent, brown or reddish brown, c. 0.5-0.8 mm broad. *Seeds* 4-10, longitudinal in the legume, black, glossy, elliptical-narrowly oblong, c. 7.5-8.0 mm long, c. 3.5 mm broad (not quite mature), the pleurogram open towards the apex, the areole cultrate, c. 6 mm long and 1 mm broad, the funicle reddish-brown, linear, almost straight with a right-angled bend, broadening at the apex into a cupuliform aril on top of the seed.

HOLOTYPE: Darling Downs District: Wambo Creek, 17.2 km [10.7 miles] SW. of Kogan by road towards Tara, Queensland, 27° 10' S, 150° 39' E, spindly shrub 3-3.5 m high with smooth grey-green bark, brown branchlets, grey-green leaves and yellow flowers, common along creek in sandy soil with *Acacia conferta*, *A. deanei*, *Callitris*, *Leptospermum*, etc., *R. Coveny* 6789 & *P. Hind* 28.viii.1975 (NSW 108121, woodblock voucher for phytochemical survey) (NSW). **ISOTYPES:** AD, B, BRI, CANB, K, L, MEL, TNS, UC, US.

DISTRIBUTION: Leichhardt and Darling Downs Districts of Queensland, as well as the North Western Slopes and North Western Plains of New South Wales, in woodland or shrub-woodland (often associated with ironbark eucalypts) in sandy soil frequently along creeks.

FLOWERING PERIOD: July to September.

PERIOD OF LEGUME FORMATION: Probably 3-5 months, mature fruit occurring in November (e.g. Hookwood, near Miles, Darling Downs District, *E. J. Adams* 11.1916 (BRI)).

SPECIMENS EXAMINED: QUEENSLAND: **Leichhardt District:** Dawson Vale, near Taroom [c. 25° 33' S, 150° 14' E], *H. I. Jensen* NSW 65882, 8.1922 (BRI, NSW). **Darling Downs District:** 13.8 km N. of Tara by road towards Chinchilla, 27° 09' S, 150° 28' E, spindly shrub to 2.5 m high with green-grey leaves and yellow flowers, in sandy soil beneath ironbarks with *Acacia ixiophylla*, *A. doratxylon* var. *angustifolia*, *Hakea purpurea*, *Triodia*, *Westringia* etc., *R. Coveny* 6797 & *P. Hind* 8.1975 (A, BM, Macquarie, NE, NSW, P, RSA, TL, Z); on Kogan-Tara road, 10 miles [16.1 km] S. of Kogan [27° 09' S, 150° 40' E], on sandy creek, tree to 10 ft [3 m] high with slender reddish green trunk, leaves glaucous green, flowers golden yellow, *R. W. Johnson* 549, 8.1958 (BRI, NSW); Wambo Creek, 17.2 km SW. of Kogan by road towards Tara, 27° 10' S, 150° 39' E, tall shrub 5-6 m high with smooth grey bark, branchlets yellow grading to red-brown, leaves grey-green and yellow flowers, common along creek in sandy soil with *Acacia conferta*, *A. deanei*, *Callitris*, *Leptospermum* etc., *R. Coveny* 6793 & *P. Hind* 8.1975 (NSW)

108122, woodblock voucher for phytochemical survey; BRI, CANB, K, NSW), shrub to 2.5 m high with grey-green leaves and yellow flowers, sandy soil along creek with *Acacia conferta*, *A. deanei*, *Calliris*, *Leptospermum* etc., R. Coveny 6794a & P. Hind 8.1975 (CBG, NSW, PERTH, Z).

NEW SOUTH WALES: North Western Slopes: Barraba, [c. 30° 23' S, 150° 37' E], H. W. R. Rupp 6809/12, 11.1912 (NSW). North Western Plains: Cuttabri, Pilliga Scrub [c. 30° 20' S, 149° 13' E], J. L. Boorman NSW 65889, 7.1913 (NSW); SE. Pilliga, E. H. F. Swain 6035/13, 8.1913 (NSW).

Previously most published descriptions of *A. pruinosa* have included *A. debilis* to which it is closely related. However *A. pruinosa* is almost always associated with acid igneous rocks (i.e. granites and quartz porphyries). It occurs on lateritic and gravelly soils in the Darling Downs District of Queensland, as well as on the Northern Tablelands, North Western Slopes and North Western Plains of New South Wales. On the other hand *A. debilis* is not associated with this granitic belt but occurs on sandy soils in the Leichhardt and Darling Downs Districts of Queensland as well as on the North Western Slopes and North Western Plains of New South Wales. It has not been recorded from the Northern Tablelands of the latter State where *A. pruinosa* is common.

I wish to thank Mr B. R. Maslin, Australian Botanical Liaison Officer, for examining material of the *A. pruinosa*-*A. debilis* group at The Herbarium, Royal Botanic Gardens, Kew.

ACKNOWLEDGEMENTS

I wish to acknowledge a grant from the Australian Biological Resources Study Interim Council for the provision of research assistance in 1976. In accordance with the terms of this grant all material collected for this paper has been placed in the National Herbarium of New South Wales. However the greater part of the work was carried out in late 1977 and early 1978 with assistance provided by a grant from Utah Foundation for which grateful acknowledgement is made. Considerable assistance has been given by Miss Marie Taylor and Miss Robin Griffiths.

I wish to express my appreciation to the Directors of the National Herbarium of Victoria, Queensland Herbarium and the State Herbarium of South Australia as well as Prof. N. C. W. Beadle for the loan of material, also to Mr L. Pedley for his kind co-operation in discussing the 3 new species occurring in Queensland. In addition my thanks are due to Mr H. K. Airy Shaw for checking my Latin diagnoses. Special collections were made on my behalf by Dr B. G. Briggs and Messrs R. Coveny, M. Butz, G. Guymer, N. Hall, P. Hind and J. Pickard. I am indebted to Miss Christine Payne who prepared the illustration of *Acacia debilis*.

REFERENCES

- Bentham, G., 1864—Flora Australiensis I. Lovell, Reeve & Co., London.
Maiden, J. H., 1918—The Tropical Acacias of Queensland. Proc. Roy. Soc. Queensland 30: 18–51, pl. I–VII.
Maiden, J. H., 1922—Forest Flora of New South Wales 7. Government Printer, Sydney.

- Maiden, J. H., and Betche, E., 1916—A Census of New South Wales Plants. Government Printer, Sydney.
- Tindale, Mary D., 1976—Australian Taxa of *Acacia* No. 4. *Telopea* 1 (1): 68–83.
- Tindale, Mary D., and Roux, D. G., 1974—An Extended Phytochemical Survey of Australian Species of *Acacia*: Chemotaxonomic and Phylogenetic Aspects. *Phytochemistry* 13: 829–839.